Model VI4300
Digital Inverter Generator

User's Manual
January 2015

VOLTMASTER

PREFACE

Thank you for purchasing a Voltmaster® inverter generator.

This manual covers the operation and preventive maintenance of the VI4300 generator with EPA and California Air Resources Board (CARB) certification if so designated.

All information in this publication is based on the latest product information available at the time of printing.

We reserve the right to make changes at any time without notice and without incurring any obligation.

No part of this publication may be reproduced without written permission.

This manual should be considered a permanent part of the generator and should remain with it if it is resold.

Pay special attention to statements preceded by the following words:

⚠ WARNING Failure to properly follow these precautions can result in property damage, serious injury or DEATH!

Read all labels and the owner's manual before operating this generator.

Generators produce carbon monoxide, a poisonous, colorless, odorless gas that can cause death or serious injury.

Indoor use of a generator can kill quickly. Generators should be used outdoors only.

Generators should be used outdoors only and away from garages and open windows and protected from rain and snow.

Always stop engine before refueling. Wait 5 minutes before restarting.
Keep any source of ignition away from the fuel tank at all times.

The portable generator is not meant to be used as a permanent back-up power system for the home. A permanently installed stationary generator is designed to be safely used for this specific purpose.

⚠ WARNING Indicates a strong possibility of severe personal injury or death if instructions are not followed.

⚠ CAUTION Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE Gives helpful information.

If a problem should arise, or if you have any questions about the generator, consult an authorized dealer or service center.

⚠ CAUTION Our generators are designed to give safe and dependable service if operated according to the instructions. Read and understand the Owner's Manual before operating the generator. Failure to do so could result in personal injury or equipment damage.

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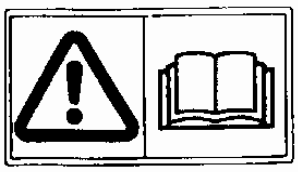
1. SAFETY INSTRUCTIONS

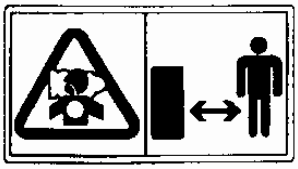
⚠ WARNING



■Our generators are designed to give safe and dependable service if operated according to these instructions.

Read and understand the owner's manual before operating the generator. Failure to do so could result in personal injury or equipment damage.

⚠ WARNING

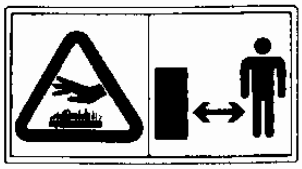


■Exhaust gas contains poisonous carbon monoxide.

Never run the generator in an enclosed area.

Be sure to provide adequate ventilation.

⚠ WARNING



The muffler becomes very hot during operation and remains hot for several minutes after stopping the engine.

Be careful not to touch the muffler while it is hot.

Let the engine cool before storing the generator indoors.

The engine exhaust system will be heated during operation and remain hot immediately after stopping the engine.

To prevent burns, pay attention to the warning marks attached to the generator.

⚠ WARNING

The generator must be operated outside with adequate ventilation. It cannot be operated in an enclosed compartment of any vehicle or garage area.

To ensure safe operation:

■ Gasoline is extremely flammable and explosive under certain conditions. Refuel in a well ventilated area with the engine stopped.

⚠ WARNING

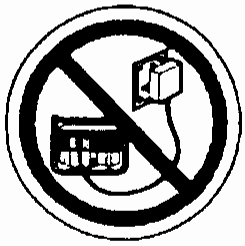
■Keep away from smoking materials, sparks and other sources of combustion when refueling the generator. Always refuel in a well-ventilated location.

■Wipe up spilled gasoline at once.

■Restrict use of the generator in high-hazard risk areas.

⚠ WARNING

■Connections for standby power to a building's electrical system must be made by a qualified electrician and must comply with all applicable laws and electrical codes. Improper connections can allow electrical current from the generator to back feed into the utility lines. Such back feed may electrocute utility company workers or others who contact the lines during a power outage, and when utility power is restored, the generator may explode, burn, or cause fires in the building's electrical system. This generator is not designed to be connected to an automatic transfer switch. Serious damage to the engine and inverter module may result.



⚠ WARNING

■ Always make a pre-operation inspection before you start the engine.

■Place the generator at least three feet or one meter away from buildings or other equipment during operation.

■Operate the generator on a level surface to prevent fuel spillage or oil starvation.

■Know how to stop the generator quickly and understand operation of all the controls. Never permit anyone to operate the generator without proper instructions. Keep children and pets away from the generator when it is in operation.

■Never operate the generator with the door open or any panels removed. Do not operate in any enclosure such as an RV compartment.

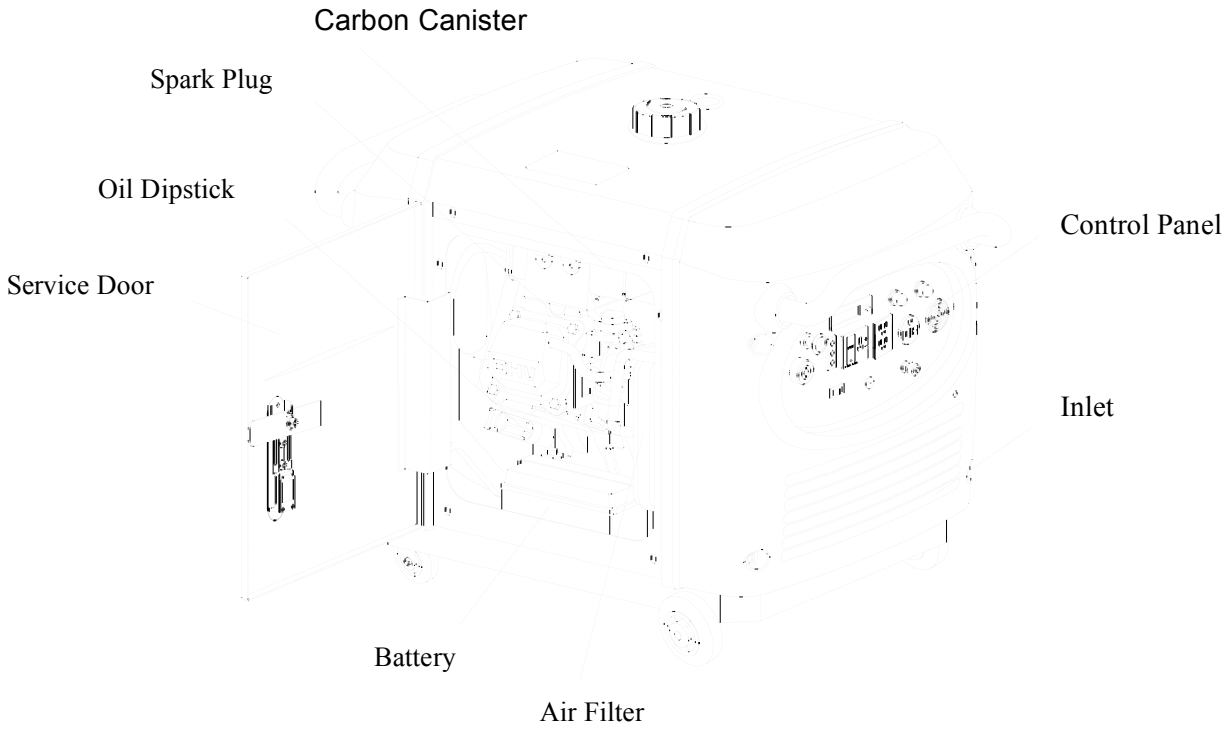
■Keep away from rotating parts while the generator is running.

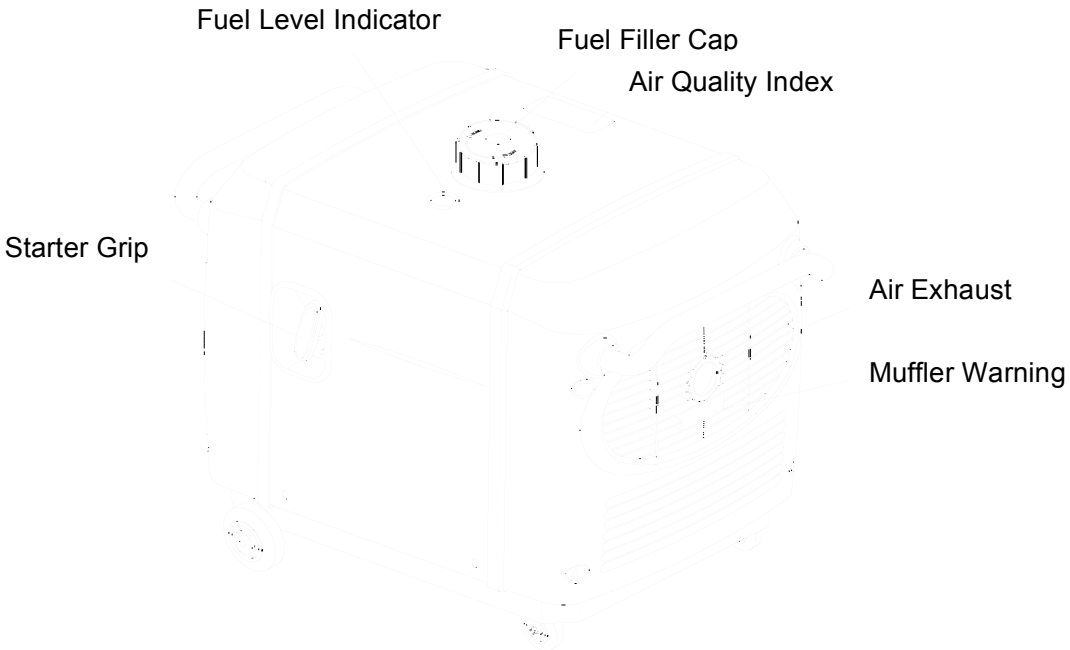
■ The generator is a potential source of electrical shocks when misused; do not operate with wet hands.

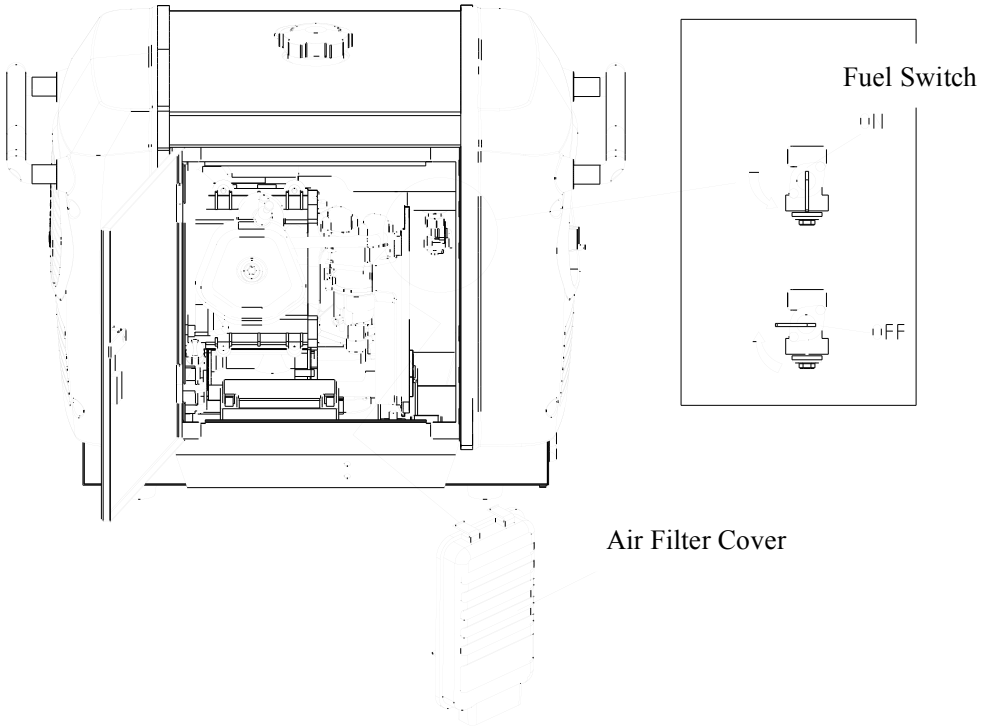
■Do not operate the generator in rain or snow or let it get wet.

2. COMPONENT LOCATIONS

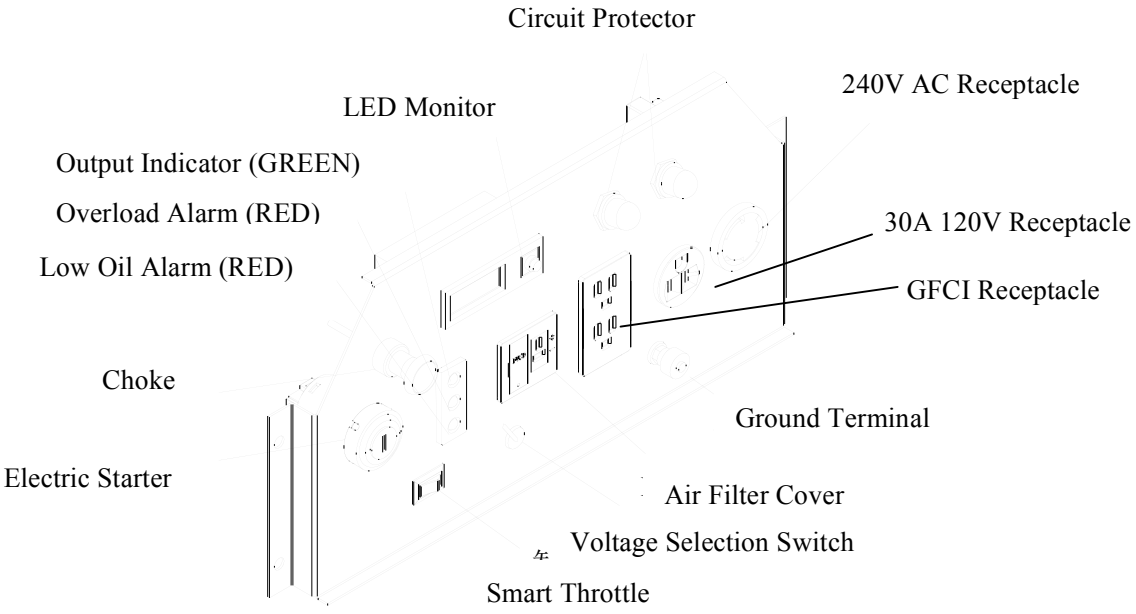
2.1 Outside view





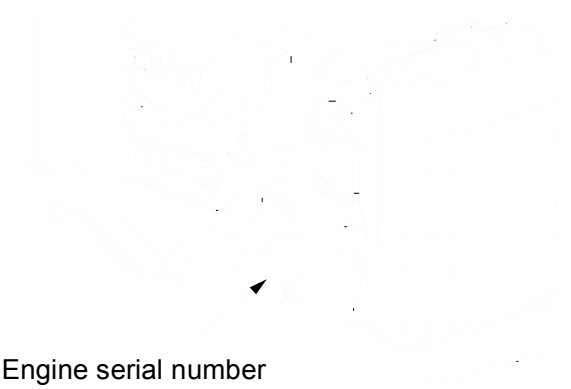


2.2 Control panel



2.3 Serial Number Location

The engine serial number is stamped on the engine block to the left of the oil drain plug. In most cases the battery will have to be removed to view it clearly. Refer to this number when ordering parts or making technical inquiries.



Engine serial number

Please record this information below and keep this manual in a safe place along with the bill of sale.

Serial Number _____

Date of Purchase _____

Place of Purchase _____

3. PRE-OPERATION CHECK

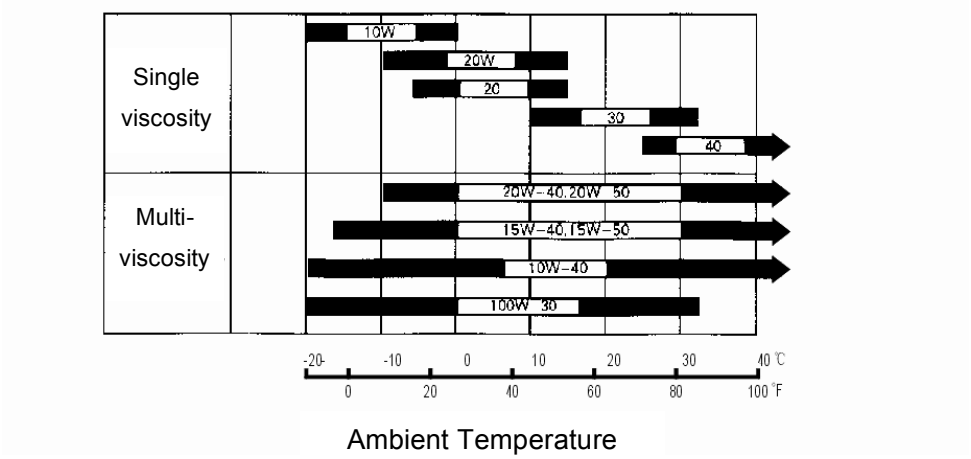
Be sure to check the generator on a level surface with the engine stopped. Under no circumstances can this generator be installed in an enclosed compartment.

3.1 Engine Oil Level

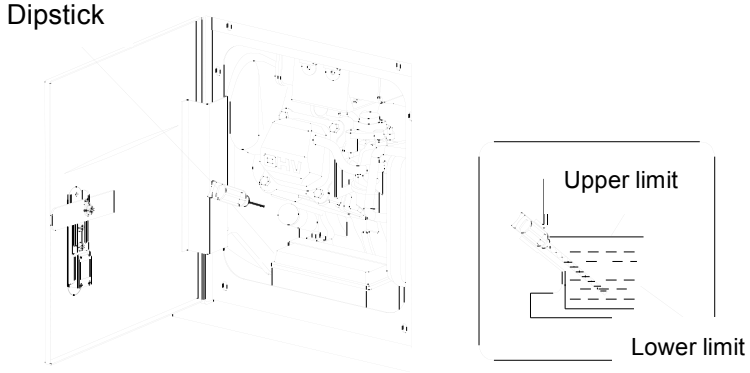
⚠ CAUTION

- Using non-detergent oil or 2-stroke engine oil could shorten the engine's service life.
- Use a high-detergent, premium quality 4-stroke engine oil, certified to meet or exceed U.S. automobile manufacturer's requirements for API Service Classification SJ or higher.
- Select the appropriate viscosity for the average temperature in your area.

SAE Viscosity Grades



Open the left maintenance cover. Remove and wipe the oil dipstick with a clean rag. Check the oil level by inserting the dipstick in the filler hole, tighten the dipstick and screw it out. If the oil level is below the end of the dipstick, refill with recommended oil to the top of the oil filler neck.



⚠ CAUTION

- ■Running the engine with insufficient oil can cause serious engine damage.
- ■The Low Oil Alarm System will automatically stop the engine before the oil level falls below a safe limit. However, to avoid the inconvenience of an unexpected shutdown, it is still advisable to visually inspect the oil level regularly.

3.2 Fuel

Fuel tank capacity- 3.1 gal (11.6 L)

Use unleaded 87 octane regular grade automotive gasoline.

If the fuel level is low, refill to the shoulder of the fuel strainer, see fig.4.

Never use an oil/gasoline mixture or dirty gasoline.

Avoid getting dirt, dust or water in the fuel tank.

After refueling, tighten the fuel filler cap securely.

⚠ WARNING

- ■Gasoline is extremely flammable and is explosive under certain conditions.
- ■Refuel in a well-ventilated area with the engine stopped. Keep all smoking materials, sparks, and any other source of combustion away from the generator during refueling.
- ■Do not overfill the fuel tank (there should be no fuel in the filler neck). After refueling, make sure the fuel filler cap is closed properly and securely.
- ■Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
- ■Avoid repeated or prolonged contact with skin or breathing of vapor. KEEP OUT OF REACH OF CHILDREN.

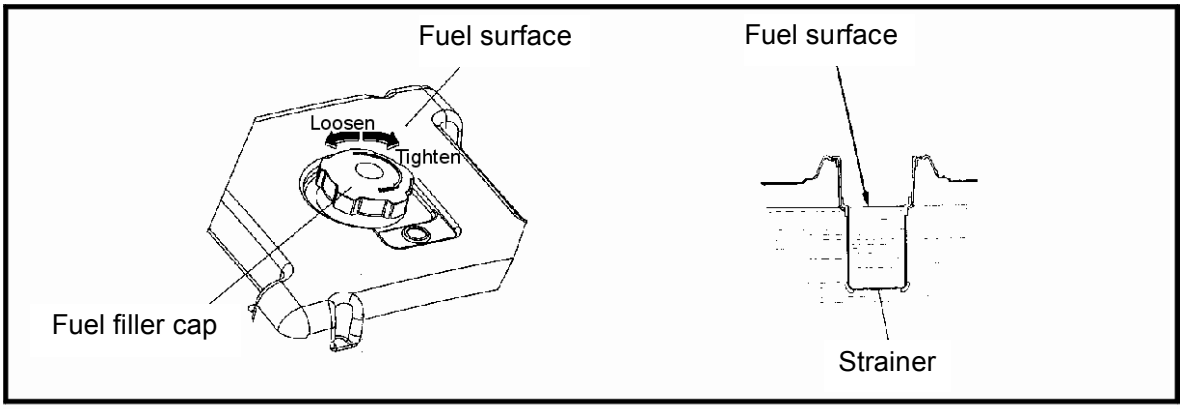


Fig.4

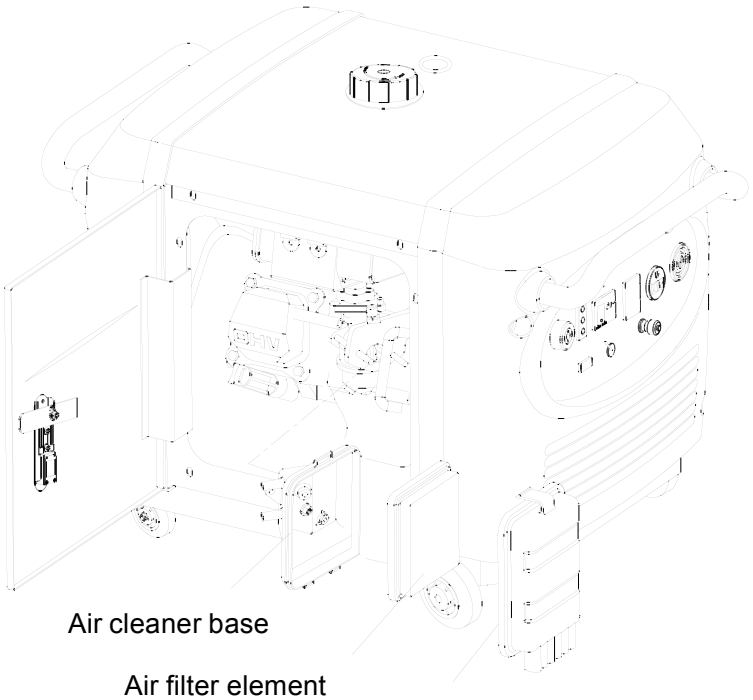
Gasoline containing alternate fuels:

If you decide to use a gasoline containing ethanol, be sure its octane rating is no lower than the specification. Do not use a blend that contains more than 10% ethanol. Do not use any gasoline containing methanol.

3.3 Air Cleaner

Check the air cleaner element to be sure it is clean and in good condition.

Open the left side maintenance cover. Remove the air cleaner cover, remove the paper element from the air cleaner cover, and check the element, Replace the element if dirty or the filter paper is torn.



⚠ CAUTION

■Never run the engine without the air cleaner. Rapid engine wear will result from contaminants such as dust and dirt being drawn through the carburetor into the engine.

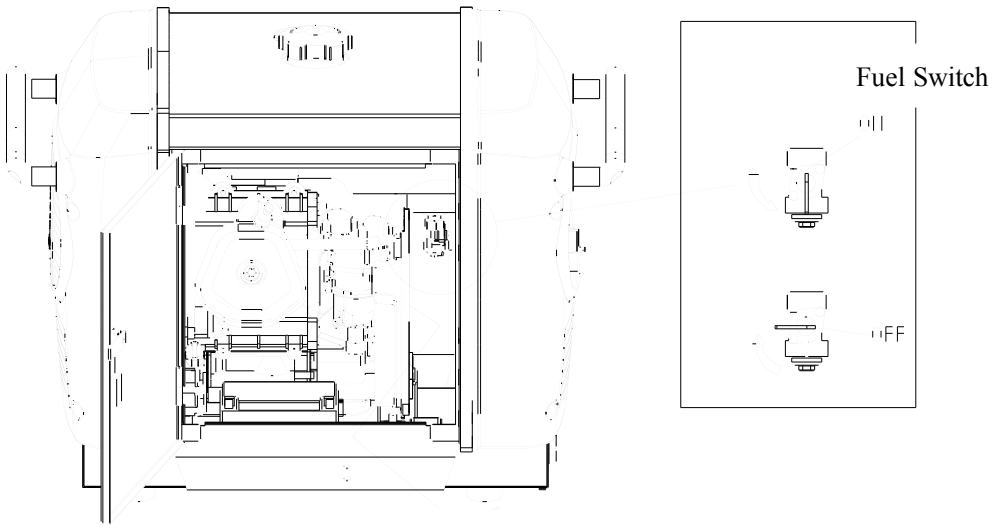
4. STARTING THE ENGINE

⚠ CAUTION

■When starting the generator after adding fuel for the first time or after long term storage, or after running out of fuel, turn the fuel valve lever to the "ON" position, then wait for 10 to 20 seconds before starting the engine.

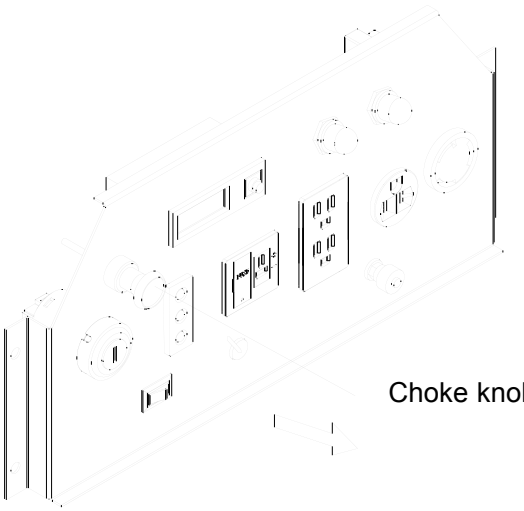
4.1 Starting Procedure

4.1(a) Turn the fuel valve lever to the ON position.

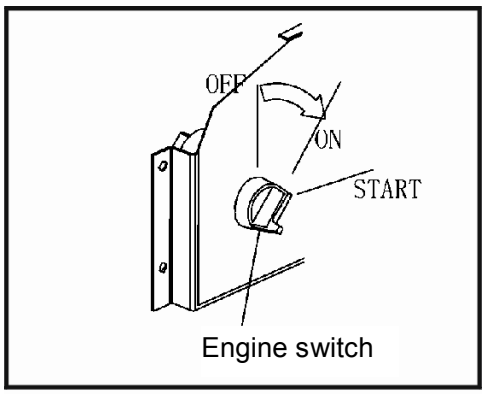


4.1(b) Pull the choke knob out to the CLOSED position

Do not use the choke if the engine is already warm or the ambient air temperature is high.



4.1(c) Insert the engine key and turn the engine switch to ON position.



4.1(d) Electric Start: turn the engine switch to the START until the engine has started. Do not operate the starter for more than 10 seconds.

Manual Start: pull the starter grip lightly until resistance is felt then pull the starter grip briskly toward the arrow as shown below.

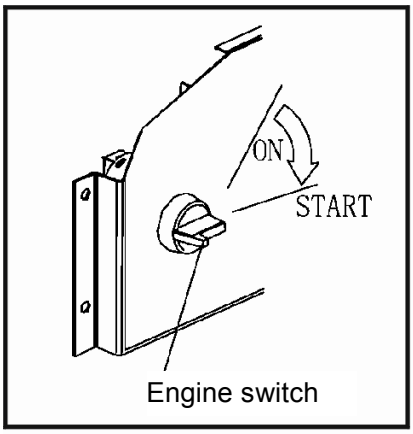


Fig.9(a)

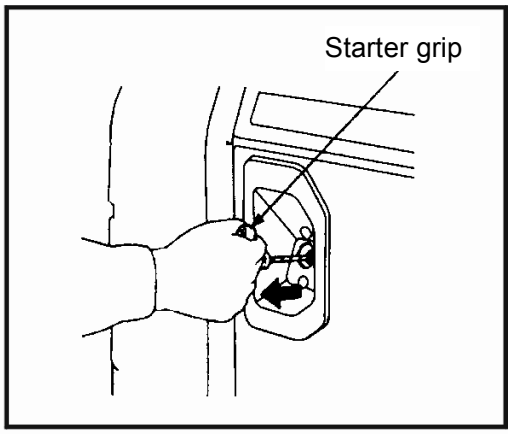
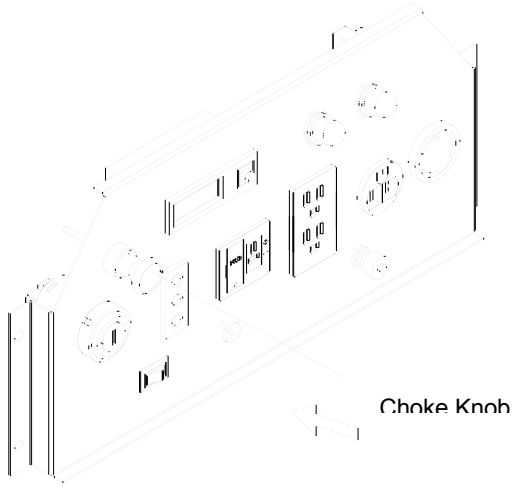


Fig.9(b)

⚠ CAUTION

- ■Do not allow the starter grip to snap back. Return it slowly by hand.
- ■Do not let the starter rope rub against the generator body or the rope will wear out prematurely.

4.1(e) Push the choke knob in to the OPEN position as the engine warms up.



4.2 High altitude operation

At high altitude, the standard carburetor air-fuel mixture will be excessively rich
Performance will decrease, and fuel consumption will increase.

High altitude performance can be improved by installing a smaller diameter main fuel jet in the carburetor. If you always operate the generator at altitudes higher than 5000 feet or 1500 meters above sea level, have your authorized dealer install a high altitude main jet.

Even with suitable carburetor jetting, engine horsepower will decrease approximately 3.5% for each 1000 feet or 305 meter increase in altitude. The effect of altitude on the horsepower will be greater than this if no carburetor modification is made.

⚠ CAUTION

- Operation of the generator at an altitude lower than the carburetor is jetted for may result in reduced performance, overheating, and serious engine damage caused by an excessively lean air/fuel mixture. Be sure to have any modification reversed at lower altitudes.

4.3 Ambient Temperature

Generator output generally derates 1% for every 10° F (5.5° C) above 85° F (29° C). The normal operating range of the generator is -20° to 113° F (-29° to 45° C).

⚠ CAUTION

- Do not operate the generator when the ambient temperature is below -20° F (-29°)
- Do not operate the generator when the ambient temperature is above 113° F (45° C)

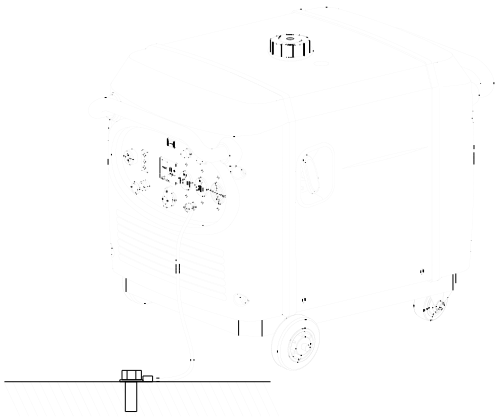
5. GENERATOR USE

5.1 Warnings and Cautions

⚠ WARNING

■To prevent electrical shock from faulty appliances, the generator should be grounded. Connect a length of heavy cable between the generator's ground terminal and an external ground source.

■Connections for standby power to a building's electrical system must be made by a qualified electrician and must comply with all applicable laws and electrical codes. Improper connections can allow electrical current from the generator to back feed into the utility lines. Such back feed may electrocute utility company workers or others who contact the lines during a power outage; when utility power is restored, the generator may explode, burn, or cause fires in the building's electrical system. Do not connect this generator to an automatic transfer switch. Serious damage to the engine and inverter module may result.



⚠ CAUTION

■Limit operation requiring maximum power to 30 minutes.

For continuous operation do not exceed the rated power of 2800 watts or 23.3 amps.

■ Do not exceed the current limit specified for any one receptacle.

■ Do not modify or use the generator for other purpose other than what it was intended. Also observe the following when using the generator:

- Do not attempt to connect generators in parallel.
- Do not connect an extension to the exhaust pipe.
- Do not operate with any covers removed or in a closed compartment

■ When an extension cable is required, make sure you use the proper size and length.

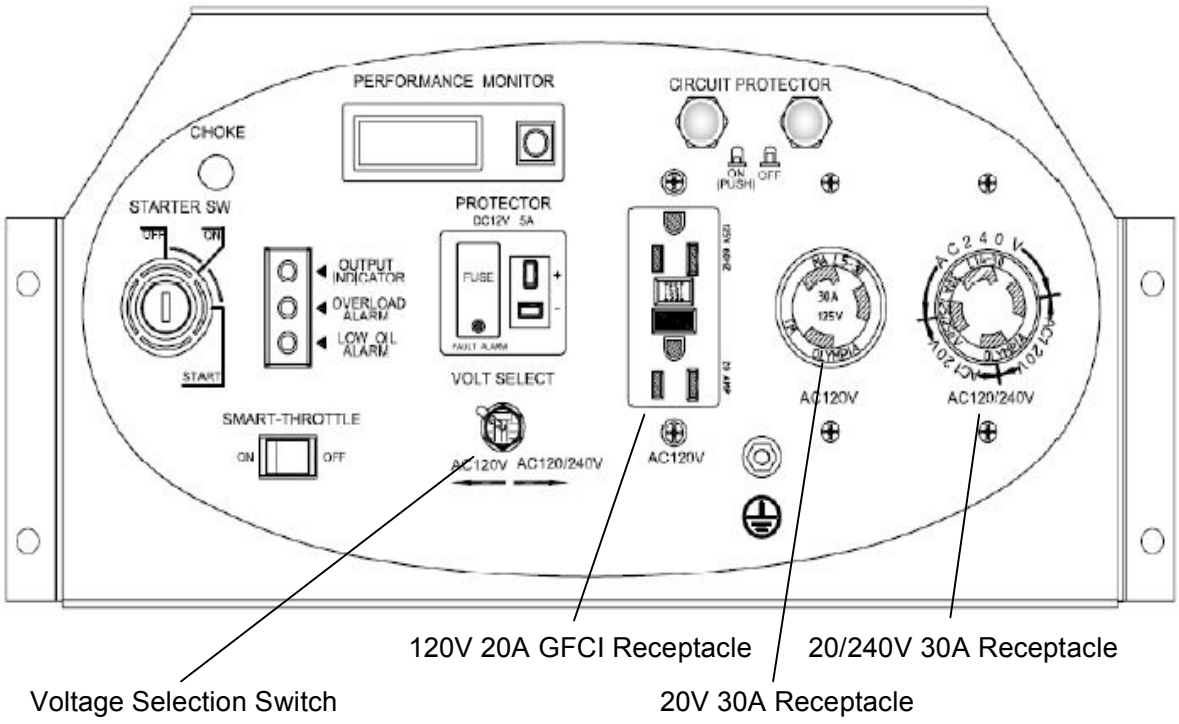
- 16 Gauge Cords- Any 16 gauge cord between 0 and 100 feet long will adequately handle tool and appliance loads up to 10 amps
- 14 Gauge Cords- a 14 gauge cord between 0 and 50 feet long will adequately handle loads between 10 and 15 amps.
- 12 Gauge Cords- If your load is between 10 and 15 amps and the length of the cord is 50 to 100 feet, you need a 12 gauge cord to safely power any tool.

■ Keep the generator away from other electric cables or wires such as commercial power supply lines.

■ You may use DC receptacle when using AC supply.

5.2 AC Power Application

The generator has the capability to provide 120V and 240V AC Power. It can do so simultaneously depending on the needs of the user. However, it is important to understand the receptacles, their current limitations. and how to distribute power efficiently.



The GFCI (ground fault circuit interrupter) shuts off power to the protected receptacles if a ground fault or current imbalance between two conductors is detected. If the reset button pops out, the appliance connected to the receptacle may be defective. If the appliance appears to be in good condition, press the reset button until a click is heard. This will restore power. If the reset button pops out again,

disconnect all appliances disconnected immediately and have them inspected by a qualified electrician before attempting to use them again.

⚠ WARNING Do not attempt to operate appliances if the ground fault circuit interrupter reset button pops out repeatedly during use.

Only the ground fault circuit interrupter receptacle provides ground fault protection.

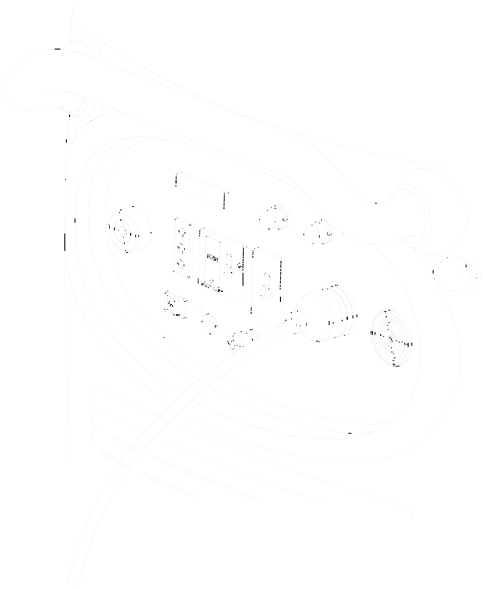
5,3 Voltage Selection Switch

The voltage selection switch has two positions: AC120V and AC120/240V.

1. When the voltage selection switch is in the 120/240V position, the generator supplies both 120V and 240V AC power. If you operate the generator with the switch in this position, the electric current is limited to 15 amps to the 120V receptacles although it can provide 15 amps at 240V from the 120/240V receptacle.
2. When the voltage selection switch in the 120V position, the generator supplies 120V AC only. It can supply a full 30 amps to the 30 Amp receptacle or 20A to the GFCI receptacle. Total current is limited to 33 amps at rated load.

5.4 AC Operation

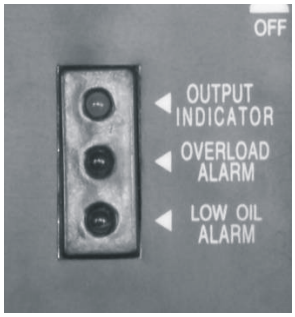
1. Start the engine and make sure the green output indicator light comes on.
2. Confirm that the appliance to be used is switched off then plug in the appliance.



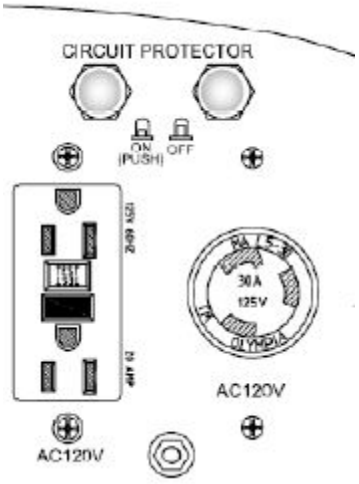
⚠ CAUTION

■ Be sure that all appliances are in good working order before connecting them to the generator. If an appliance begins to operate abnormally, becomes sluggish, or stops suddenly, turn off the generator engine switch immediately. Disconnect the appliance and examine it for signs of malfunction.

5.5 Output and Overload Indicators



The green output indicator light will remain on during normal operating conditions. If the generator is overloaded to the point that the max power rating of 35.8 amps is exceeded or if there is a short in the connected appliance, the output indicator will go out and the overload indicator will go on and current to the connected appliance will be shut off.
Stop the engine if the overload indicator light comes ON and investigate the overload source. The engine will continue to run even though it is not producing any AC power. The engine must be stopped and then the generator restarted to resume normal operation.



The two 120V receptacles are rated at 20 and 30 amps respectively.. Should this current be exceeded, the circuit protection device will activate and cut all current to the receptacle. This will be indicated by the push button popping out. Reduce the load to the receptacle and reset the circuit protector by pushing in the button.

⚠ NOTE

- ■Before connecting an appliance to the generator, check that it is in good order, and that its electrical rating does not exceed that of the generator. .
- ■When an electric motor is started, both the overload indicator light and the output indicator light may go on simultaneously. This is normal if the overload indicator light goes off after about four seconds. If the overload indicator light stays on, consult a service center.

5.6 SMART Throttle

When the SMART throttle is placed in the on position, engine speed is kept at idle automatically when the electrical load is disconnected and returns to the proper speed required by the electrical load when the load is reconnected. The engine speed varies according to the amount of load applied to the generator. Placing the smart throttle in the on position is recommended to minimize fuel consumption and engine noise while in operation.

⚠ NOTE

- ■When high electrical load appliances are connected simultaneously, turn the SMART throttle switch to the OFF position to reduce voltage fluctuation.
- ■ The SMART throttle system does not operate efficiently if the electrical appliance will be used in a rapid on-off or low to high rpm mode.

When the smart throttle is in the off position, the engine runs at rated load RPM.

5.7 Air Conditioner Operation

For best results, the SMART throttle switch should be in the off position. Bring the generator to a normal operating temperature before applying the air conditioning load. Always allow a 2 minute wait period when manually cycling an air conditioner off and on. A longer wait period may be required under unusually hot weather conditions. Additionally, all other loads should be turned off until the air conditioner has started and is performing normally. It is also important to follow the air conditioner manufacturer's instructions for starting and restarting for proper operation. Some air conditioner manufacturers offer a start capacitor as an extra cost option. The lack of a start capacitor can cause the air conditioner to draw too high a starting current and overload the generator. Contact your air conditioner dealer if you consistently have problems starting your air conditioner with the generator.

5.8 DC Power Application

The DC receptacle may be used for charging 12 volt automotive-type batteries only. It is not designed to operate DC motors. Output voltage is 15-30V. DC output will vary according to the position of the Smart throttle switch.

a. Connect the charging cable to the DC receptacle of the generator and then to the battery terminals.

⚠ WARNING

- To prevent the possibility of creating sparks near the battery, connect the charging cable first to the generator then to the battery. Disconnect the cable first at the battery.
- Before connecting the charging cable to a battery that is installed in a vehicle, disconnect the vehicle's battery ground cable. Reconnect the vehicle's ground cable after the charging cables are removed. This procedure will prevent the possibility of a short circuit and sparks if accidental contact is made between a battery terminal and the vehicle's frame or body.
- Do not attempt to start an automobile engine with the generator still connected to battery. The generator may be damaged.
- Connect the positive battery terminal to the positive charging cord. Do not reverse the charging cables or serious damage to the generator and/or battery may occur.
- The battery gives off explosive gases: keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.

■The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.

A. If electrolyte gets on your skin, flush with water.

B. If electrolytes gets in your eyes, flush with water for at least 15 minutes and call a physician.

■ Electrolyte is poisonous.

If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a physician.

■ Keep out of reach of children.

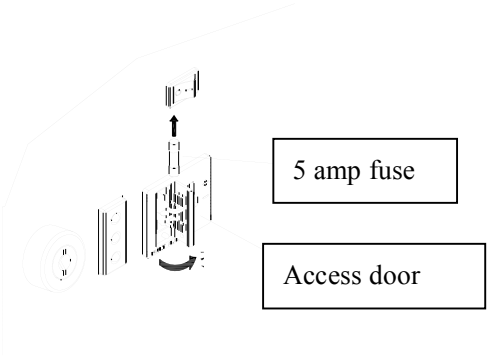
⚠ CAUTION

The DC output is to be used to charge batteries only. Serious damage to the stator windings can occur if connected to a DC motor or transformer.

b. Start the generator.

■ The DC receptacle may be used while the AC power is in use.

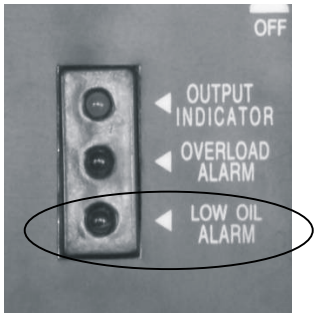
■ The DC receptacle is protected from an overload with a fuse. If the DC circuit is overloaded, the 5 amp fuse will blow and power to the DC receptacle will cease. The red light on the DC panel will illuminate. The fuse is located to the left of the receptacle and is accessed by snapping open the access door. Replace the fuse with one of the same capacity. Using a higher rated fuse may cause damage to the generator alternator.



5.9 Low oil alarm system

The low oil alarm system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase falls below a safe limit, the low oil alarm system will automatically shut down the engine (the engine switch will remain in the ON position).

If the low oil alarm system shuts down the engine the red low oil alarm indictor light will come on when you operate the starter, and the engine will not run. If this occurs, search for any oil leaks. Add engine oil to resume normal operation.



5.9 Digital Display Panel

The generator features a digital panel that displays operating parameters and service reminders. Pressing the button will cycle the display through voltage, current, frequency, battery voltage, and accumulated hours. Push the button to read the desired parameter.

Operating Parameters

With the voltage switch in the 120V position, the parameters are as follows:

1. AC voltage expressed in volts
2. Current expressed in amps
3. Frequency expressed in Hertz
4. Accumulated operating hours
4. Battery voltage expressed in DC volts

With the voltage switch in the 120/240V position, the parameters will be different as the display looks at both 120V AC legs

1 . Total Voltage (both legs)

2. Single Voltage leg A

3. Single Voltage leg B

4. Leg A current value

5. Leg B current value

6. Frequency

7. Accumulated operating hours

8. Battery Voltage

Service Reminders:

When the specified service interval is reached, the display the following codes:

SV1 Change oil

SV2 N/A (diesel models)

SV3 Service air cleaner

SV4 N/A (diesel models)

SV5 Adjust valve clearance

SV6 Check fuel tank and fuel lines

To see the prescribed service intervals, see chapter 7, Maintenance.

When a service reminder is displayed, you can press the selection button to restore the operating parameter however the service code will be displayed again in two seconds. After the specified maintenance item is addressed, the code can be cleared by holding down the selection button for five seconds and the service interval clock will be reset.

Do not ignore the service reminder and have the scheduled preventive maintenance performed.. Serious engine damage may result otherwise.

6. STOPPING THE ENGINE

6.1 Normal Shutdown

1. Switch off the connected equipment and disconnect from the generator.
2. Turn off the engine switch.
3. Turn the fuel valve lever to the OFF position.

6.2 Emergency Stop

Turn the start switch to the OFF position.

⚠ CAUTION

Continually stopping the generator with a load applied can lead to damage of the control module.

7. MAINTENANCE

The purpose of the maintenance and adjustment schedule is to keep the generator in the best operating condition.

⚠ WARNING

■Shut off the engine before performing any maintenance. If the engine must be run, make sure the area is well ventilated. The exhaust contains poisonous carbon monoxide gas.

⚠ CAUTION

■Use genuine Voltmaster parts or equivalent. The use of replacement parts which are not of equivalent quality may damage the generator.

7.1 Emission Control System

Emission source

Exhaust gas contains carbon monoxide, nitrous oxide (NOx), and hydrocarbons. It is very important to control the emissions of NO_X and hydrocarbons as they are a major contributor to air pollution. Carbon monoxide is a poisonous gas. The emission of fuel vapors is a source of pollution as well. The generator engine utilizes a precise air-fuel ratio and emission control system to reduce the emissions of carbon monoxide, NO_X, hydrocarbons, and evaporative fuel emissions.

Regulation

Your engine has been designed to meet current Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) clean air standards. The regulations dictate that the manufacturer provide operation and maintenance standards regarding the emission control system. Tune up specifications are provided in the Specifications section and a description of the emission control system may be found in the appendix to this manual, Adherence to the following instructions will ensure your engine meets the emission control standards.

Modification

Modification of the emission control system may lead to increased emissions. Modification is defined as the following:

- Disassembling or modifying the function or parts of the intake, fuel or exhaust system.
- Modifying or destroying the speed governing function of the generator.

Engine faults that may affect emission

Any of the following faults must be repaired immediately. Consult with an authorized Voltmaster service center for diagnosis and repair:

- Hard starting or shut down after starting
- Unstable idle speed
- Shut down or backfire after applying an electrical load
- Backfire or afterfire.
- Black smoke and/or excessive fuel consumption

Replacement parts and accessories

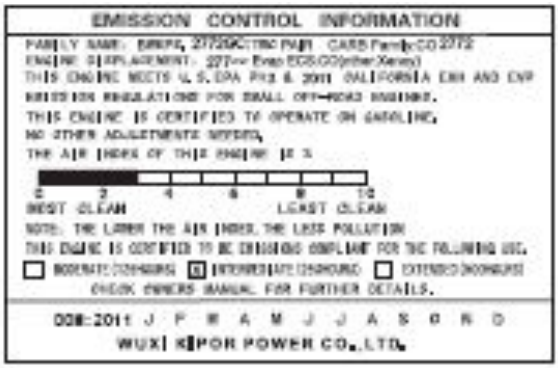
The parts making up the emission control system applied to the engine have been specifically approved and certified by the regulatory agencies. You can trust the replacement parts supplied by Voltmaster have been manufactured to the same production standard as the original parts. The use of replacement parts or accessories which are not supplied by Voltmaster may affect engine emission performance. The manufacturers of replacement parts and accessories have the responsibility to guarantee that their replacement products will not adversely affect emission performance.

Maintenance

Maintain the generator according to the maintenance schedule in this section. Service items more frequently when used in dusty areas, or under conditions of high load, temperature, and humidity.

Air Quality Index (only for California certified models)

CARB requires that an air quality index label be attached to every certified engine showing the engine emission information for the emission duration period. The label is provided for the user to compare the emission performance of different engines. The lower the air index, the better the engine emission performance. The description of durability is helpful for the user to learn the engine emission duration period and the service life of emission control system. Refer to the warranty section of this owner's manual for more information.



7.2 Maintenance Schedule

(1) REGULAR SERVICE PERIOD Perform at every indicated monthly or operating hour interval whichever occurs first ITEM		EACH USE	FIRST MONTH OR 20HRS	EVERY 3 MONTHS OR 50HRS	EVERY 6 MONTHS OR 100HRS	EVERY MONTHS OR 300HRS
Engine oil	Check	○				
	Change		○		○	
Air cleaner	Check	○				
	Clean/replace			○(2)		
Spark plug	Clean/adjust				○	
Spark arrester	Clean				○	
Fuel sediment cup	Clean				○	
Valve clearance	Check/adjust					○(3)
Fuel tank and strainer	Clean					○(3)
Fuel lines	Check	Every 2 years (Replace as necessary) (3)				

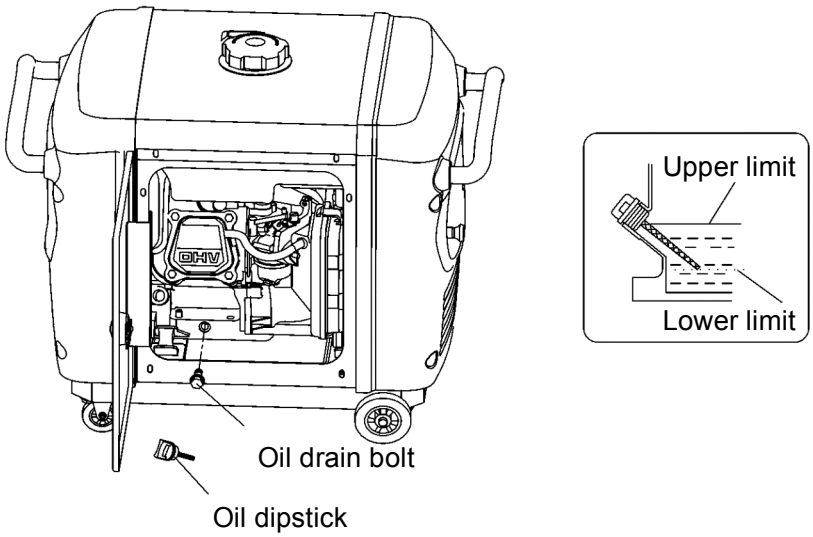
NOTE: (1) Log hours of operation to determine proper maintenance.

(2) Service more frequently when used in dusty conditions.

(3) These items should be serviced by an authorized Voltmaster service center unless the owner has the proper tools and is mechanically proficient. To locate a service center, visit www.voltmaster.com.

7.3 Changing oil

Drain the oil while the engine is still warm to assure rapid and complete drainage.



1. Open the left side maintenance cover.
2. Remove the oil dipstick.
3. Remove the drain bolt and drain the oil. There is a rubber plug in the bottom of the generator pan that can be removed to facilitate draining the oil. The generator will have to be raised off the ground and supported while the oil drains. Retighten the bolt securely.
4. Refill with the recommended oil and check the level.
5. Close the left side maintenance cover.

7.4 Air cleaner service

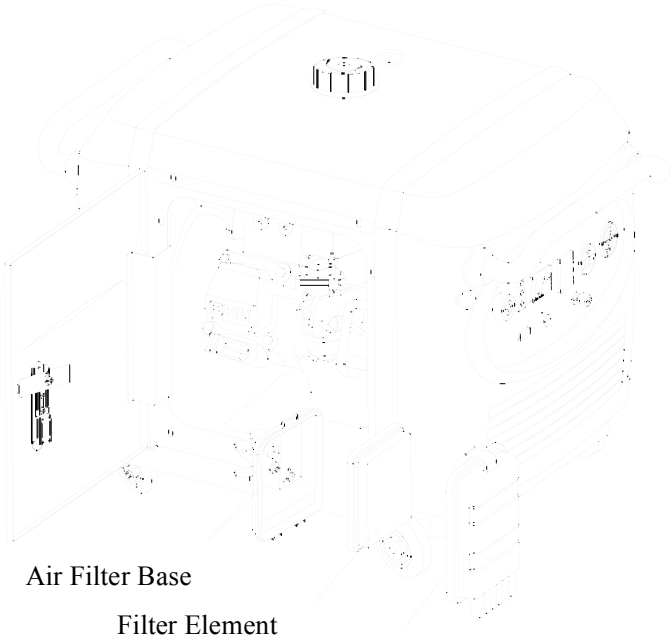
A dirty air cleaner will restrict airflow to the carburetor and allow dirt into the engine. Service the air cleaner regularly. Service more frequently when operating the generator in extremely dusty areas.

⚠ WARNING

■Do not use gasoline or low flashpoint solvents for cleaning. They are flammable and explosive under certain conditions.

⚠ CAUTION

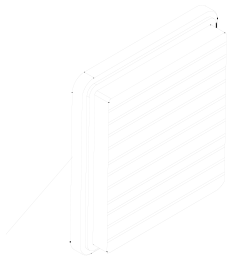
■ Never run the generator without the air cleaner. Rapid engine wear may result.



Air Filter Base

Filter Element

Air Filter Cover



Filter

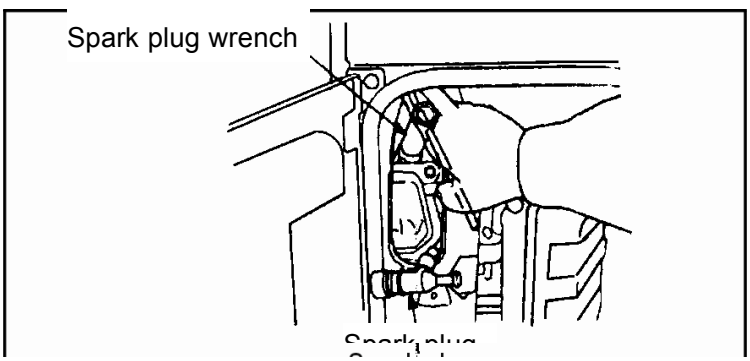
1. Open the service door.
2. Unsnap the clips and remove the air cleaner cover.
3. If the paper element is dirty or torn, replace it with a new one. Do not attempt to clean the element.
5. Reinstall the air cleaner cover.
6. Close and latch the service door.

7.5 Spark plug service

Recommended spark plug: WR7DC

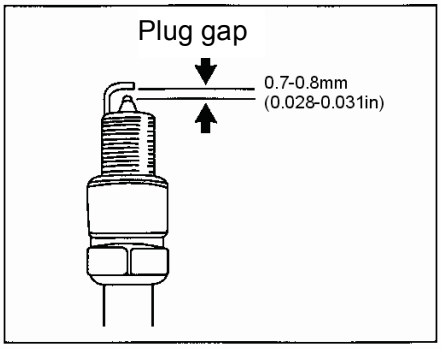
To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Open the service door.
2. Remove the spark plug cap.
3. Use the wrench to remove the spark plug.
4. Clean any dirt from around the spark plug base.



5. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped.
Clean the spark plug with a wire brush if it is to be reused.

6. Measure the plug gap with a feeler gauge. The gap should be 0.028-0.031in (0.7-0.8mm). Correct as necessary by carefully bending the side electrode.

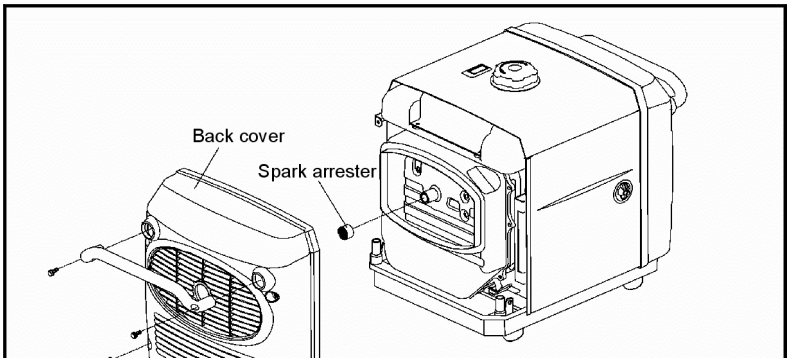


7. Install the spark plug carefully, by hand, to avoid cross-threading.
8. After a new spark plug has been seated by hand, it should be tightened 1/2 turn with a wrench to compress the sealing washer. If a used plug is being reinstalled, it should only require 1/8 to 1/4 turn after being seated.
9. Reinstall the spark plug cap.
10. Close and latch the service door.

⚠ CAUTION

- ■The spark plug must be securely tightened. An improperly tightened plug can become very hot and possibly damage the generator.
- ■Never use a spark plug with an improper heat range.

7.6 Spark arrester maintenance



1. Remove the generator rear cover to access the spark arrestor.
2. Remove the spark arrestor from the muffler by unscrewing the clamp.
3. Clean the spark arrestor with a stiff wire brush.
4. Replace if the wire mesh is perforated or torn.
5. Reinstall the spark arrester.
6. Reinstall rear cover.

⚠ WARNING

■ If the generator has been running, the muffler will be very hot. Allow it to cool before proceeding.

⚠ CAUTION

■ The spark arrester must be serviced every 100 hours to maintain its efficiency.

⚠ NOTE

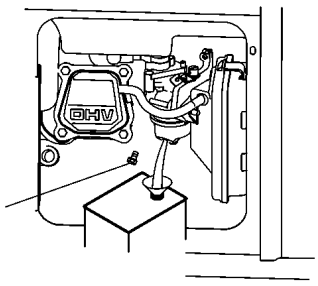
■ Inspect the spark arrester screen for holes or tears. Replace as necessary.

7. TRANSPORTING/STORAGE

8.1 Transporting

When transporting the generator, turn the fuel valve lever OFF and keep the generator level to prevent fluid spillage. Fuel vapors or spilled fuel may ignite. Transporting the generator with gasoline in the fuel tank is prohibited.

8.2 Extended Storage:



Drain plug

1. Be sure the storage area is free of excessive humidity and dust.
2. Drain the fuel.
   a. Open the left side maintenance cover.
   b. Turn fuel valve lever to ON and then loosen the carburetor drain screw. Drain the gasoline from the carburetor and fuel tank into a suitable container.
   c. Tighten the carburetor screw, close the fuel valve lever and left side maintenance cover.
3. Once a month, recharge the battery.
4. Change the engine oil.

5. Remove the spark plug and pour a tablespoon of clean engine oil into the cylinder. Crank the engine several revolutions to distribute the oil and then reinstall the spark plug.

6. Slowly pull the starter grip until resistance is felt. At this point, the piston is coming up on its compression stroke and both the intake and exhaust valves are closed.

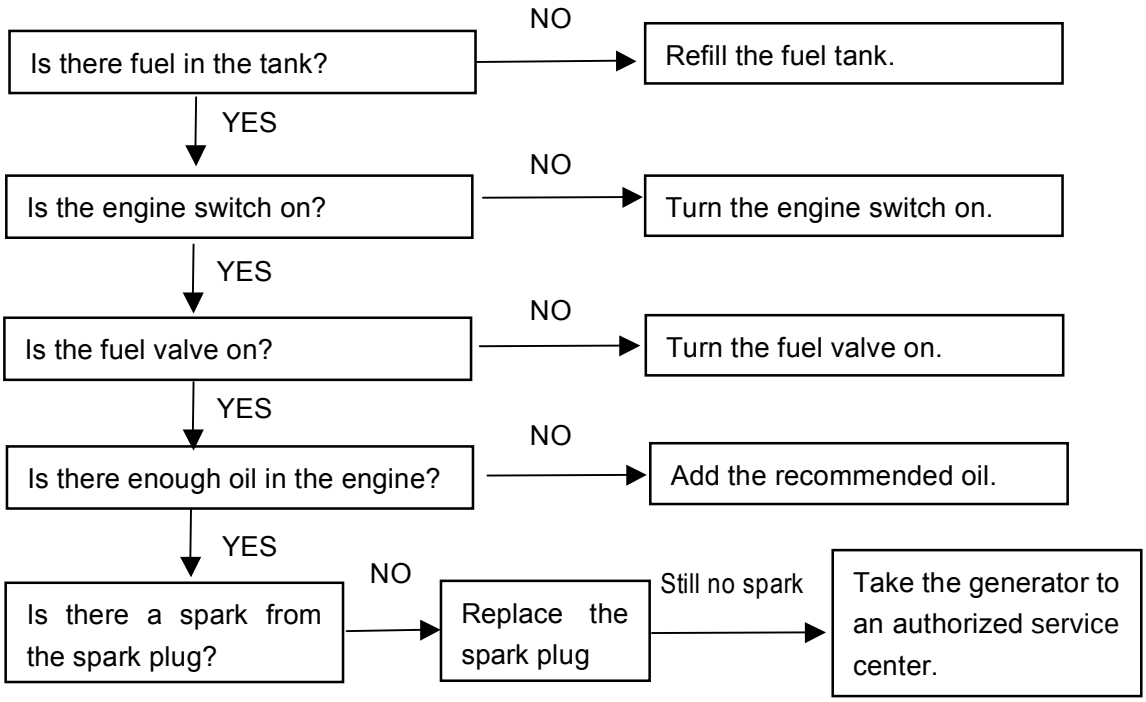
Storing the engine in this position will help protect it from internal corrosion.

8.3 Fuel Treatment and Generator Exercise:

Any small engine is very susceptible to fuel varnishing. Fuel systems have very small orifices and passageways which can easily become clogged by fuel residue that takes the form of gum and varnish. This can lead to hard starting and rough running and possibly cause the engine not to start at all. As EPA regulations dictate no kits available to renew a carburetor, carburetor replacement will be necessary. Fuel preservatives are readily available at leading RV and marine dealers. Regularly add a fuel preservative to the generator fuel tank or fuel supply. Drain the carburetor bowl prior to any storage period longer than 30 days. **Exercise the generator by running it at a 50% load for two hours every month.** This insures fresh fuel is run through the fuel system and prevents varnishing. In addition, seals and engine components are lubricated and the chance of carbon buildup in the upper cylinder head is lessened. Any moisture that has accumulated in the generator windings is baked out as well as keeping the battery charged.

9. TROUBLESHOOTING

When the engine will not start:



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⚠ WARNING

■ Be sure there is no spilled fuel around the spark plug. Spilled fuel may ignite.

Is the fuel reaching the carburetor?

If the engine still does not start, take the generator to an authorized service center.

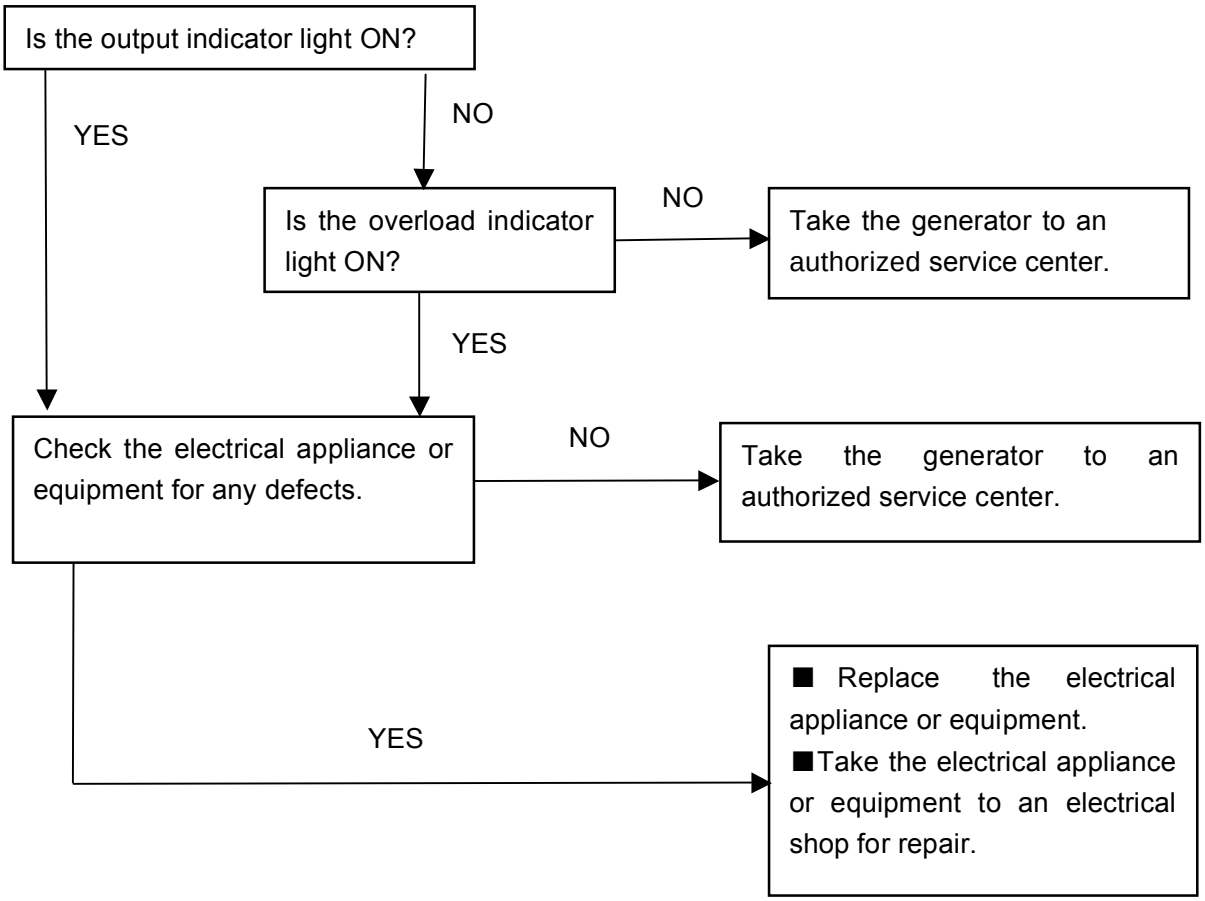
To check:

1) Remove the spark plug cap and clean any dirt from around the spark plug.
2) Remove the spark plug and install the spark plug in the plug cap.
3) Set the plug side electrode on the cylinder head to ground.
4) Crank the engine; sparks should jump across the gap.

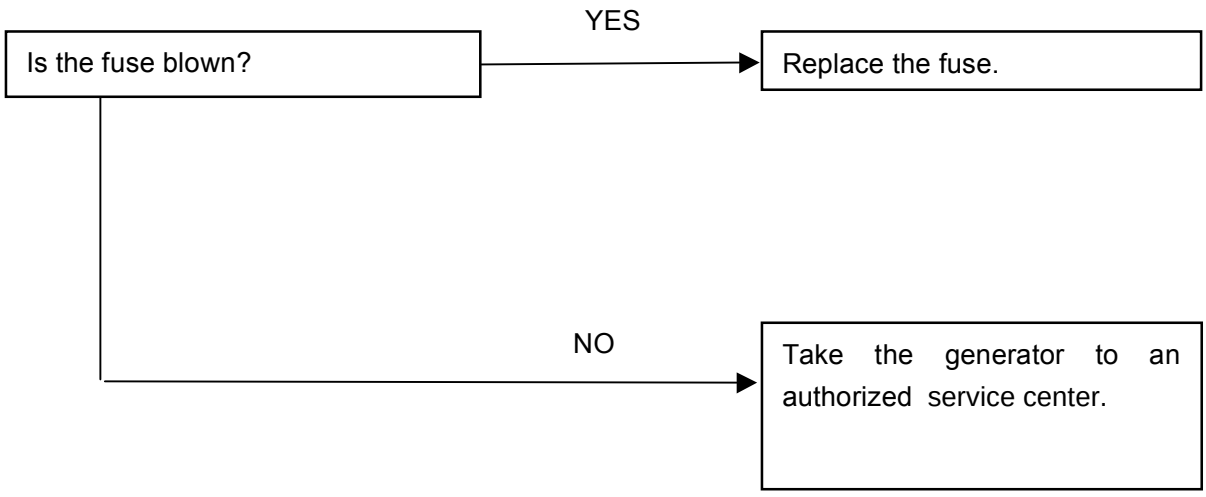
To check:

1) Turn off the fuel valve and loosen the drain screw.
2) Fuel should flow from the drain when the fuel valve is turned on.

AC Appliance does not operate:



No output at the DC receptacle:



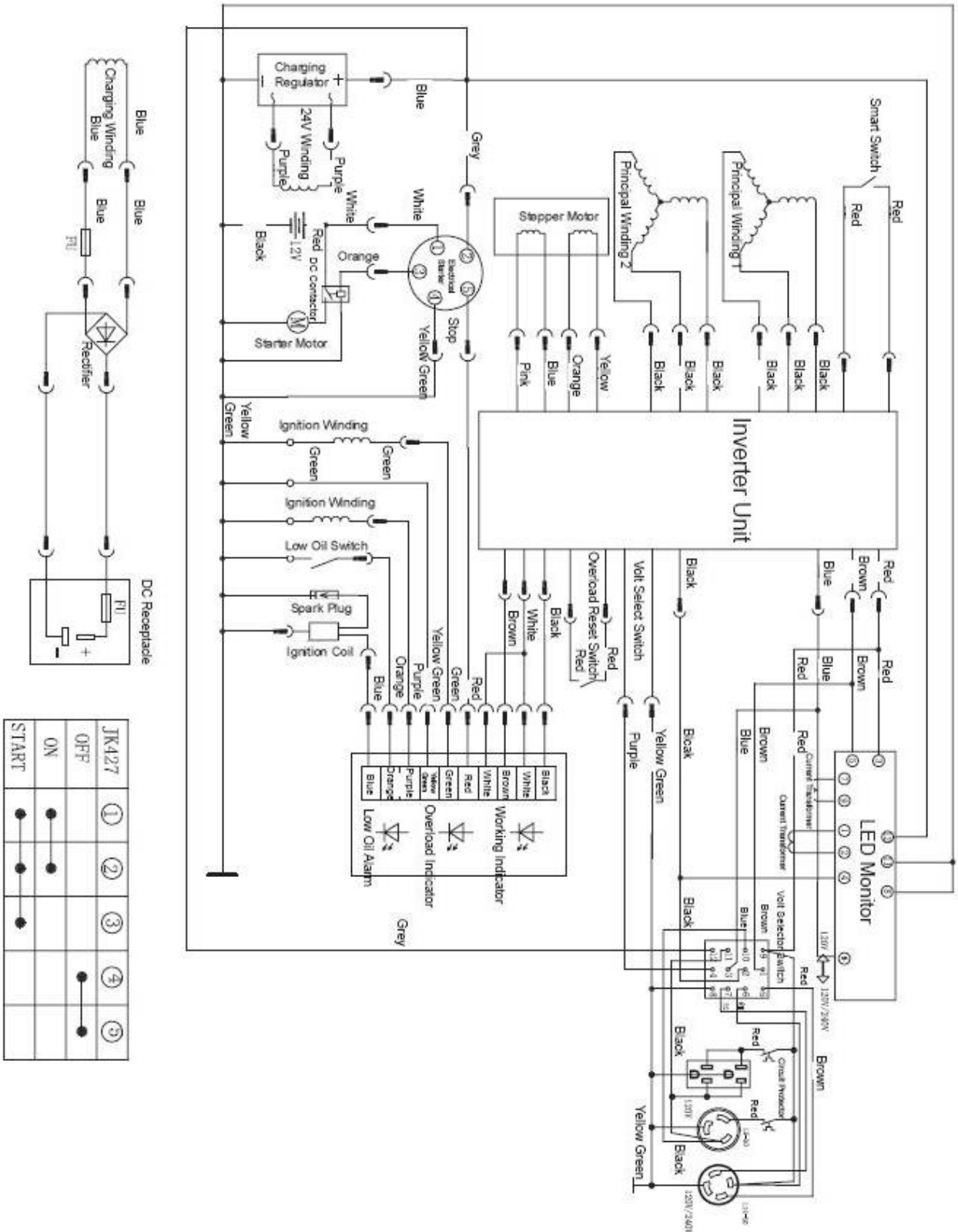
10. SPECIFICATIONS

Model	VI4300
Type	Inverter
Rated Voltage	120/240
Frequency	60 HZ
Maximum Output	4300W, 35.8A/17.9A
Rated Output	4000W, 33.3A/16.7A
DC Output	12V@5.0A
Engine Model	KG280
Engine Type	4 Stroke, overhead valve, single cylinder
Displacement	277 cc
Compression Ratio	8.5:1
Rated Power	5.5 HP @ 3600 RPM
Cooling System	Forced Air
Ignition System	Transistorized
Oil Capacity	1.2 qt (1.1L)
Fuel Tank Capacity	3.1 gal (11.6 L)
Rated Load Run Time	5 hours
Noise level-no load-full load @ 23' (7m)	62-67 dB
Spark Plug	WR7DC
Length	30.9 in (785 mm)
Width	18.5 in (470 mm)
Height	22.4 in (569 mm)
Weight	162 lbs (72.5 kg)

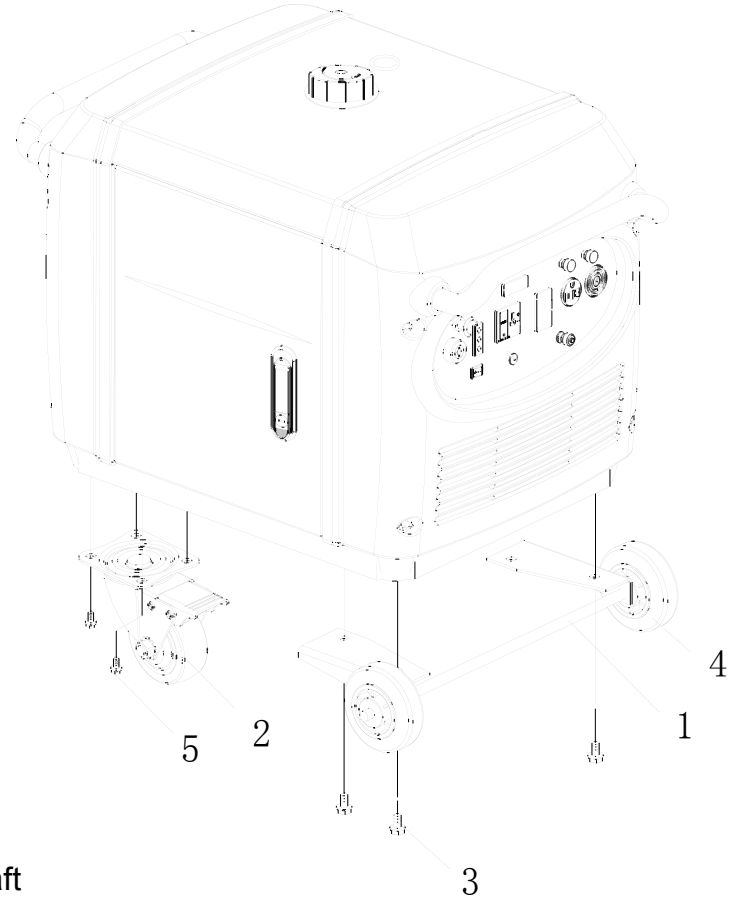
Tune Up Specifications

Spark Plug Gap	0.024-0.028 in (0.6-0.7 mm)
Valve Clearance- cold (Intake)	0.0039 ±.0008 in (0.10 ± 0.02 mm)
Valve Clearance- cold (Exhaust)	0.0059 ± .0008 in (0.10 ± 0.02 mm)

11. WIRING DIAGRAM



12. WHEEL KIT



1. Axle shaft
2. 2.5’ swivel locking wheel
3. Bolt M8X16
4. Wheel
5. Bolt M6X16

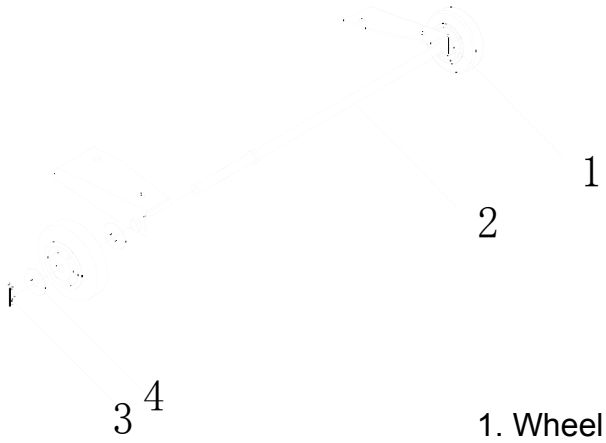
A Wheel Assembly Installation

a. Install the left and right axle plates

b. Insert axle through the plate

c. Install an iiner washer, the wheel, and an outer washer

d. Secure with a cotter pin

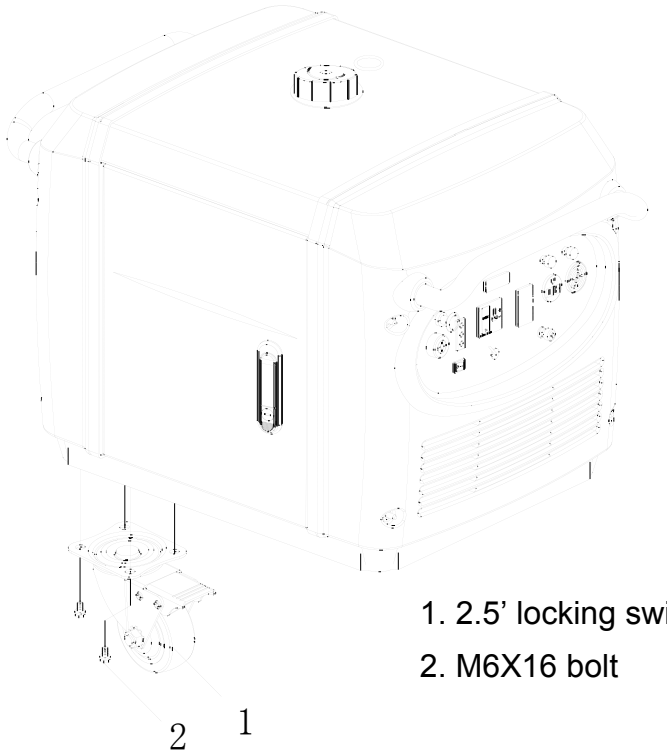


1. Wheel
2. Axle
3. Cotter Pin
4. Washer

B. Install the locking swivel wheel

a. Align the hole in the wheel plate with the predrilled holes in the chassis

b. Secure with 4 M6X16 bolts



1. 2.5’ locking swivel wheel
2. M6X16 bolt

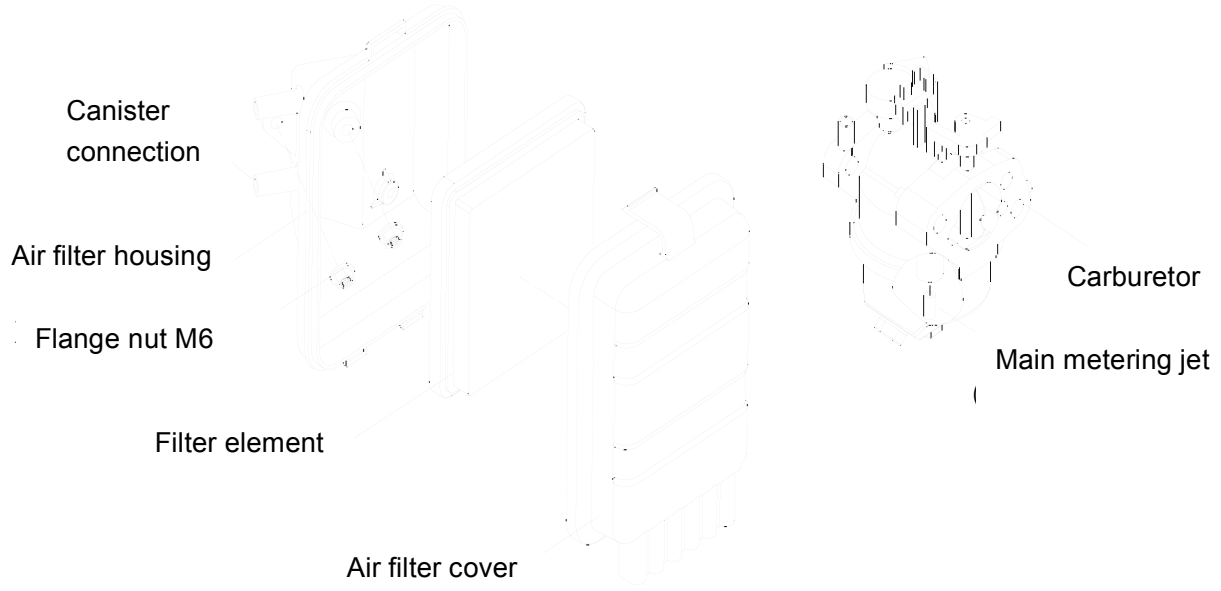
14. EMISSION CONTROL SYSTEM

If so designated, your generator has an engine that has been approved by the California Air Resources Board. Other than the tune up procedures specified in the maintenance section, no additional maintenance is required.

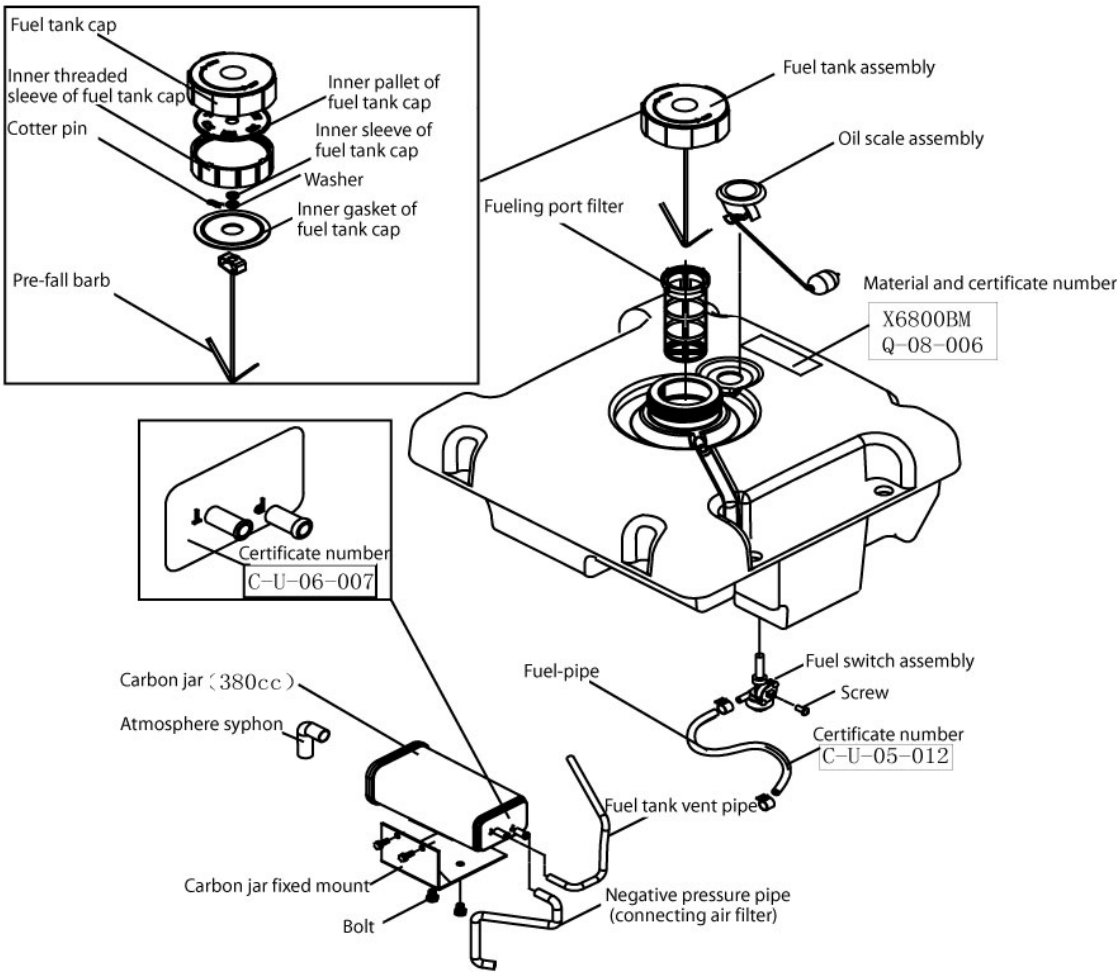
The emission control system has the following components:

1. Fuel System: The fuel tank, cap, indicator and hoses are specially designed and constructed to not allow fuel vapors to permeate and be released to the atmosphere.
2. A carbon activated canister collects gasoline vapors from the fuel tank and returns them to the combustion chamber for burning.
3. A catalyst is built into the muffler to further treat the engine exhaust.
4. A secondary air injection valve adds combustion air to ignite unburned fuel in the exhaust.

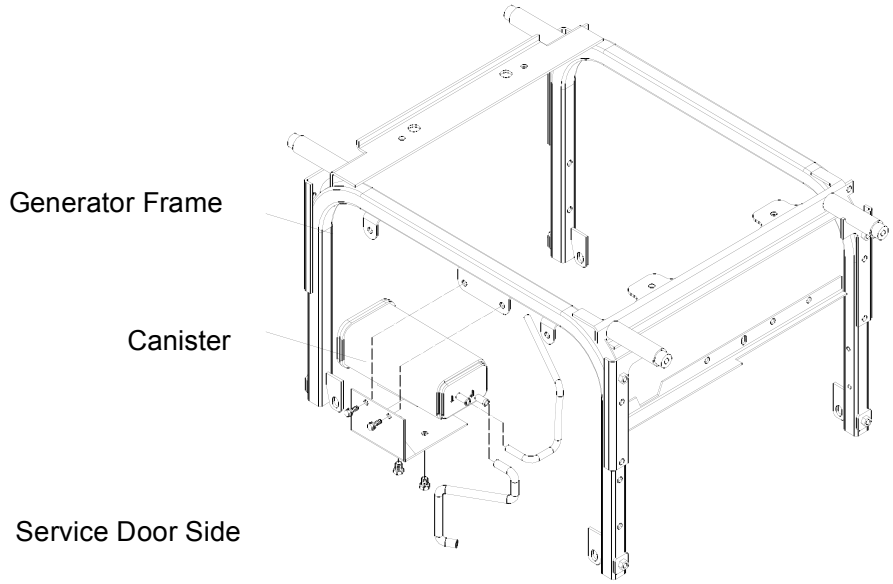
Contact an authorized Voltmaster service center to obtain the correct replacement parts and service on this system.



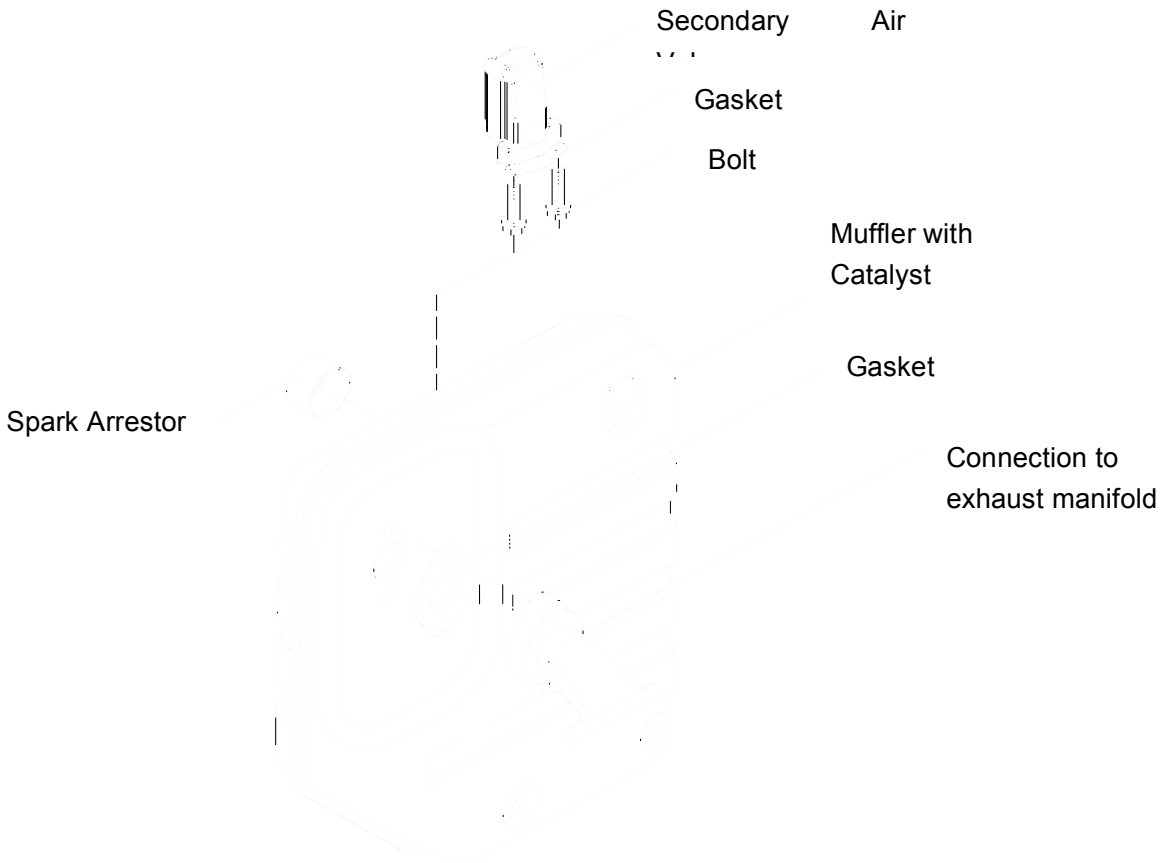
Inlet System


Fuel tank cap
Inner threaded sleeve of fuel tank cap
Cotter pin
Inner pallet of fuel tank cap
Inner sleeve of fuel tank cap
Washer
Inner gasket of fuel tank cap
Pre-fall barb
Fuel tank assembly
Oil scale assembly
Fueling port filter
Material and certificate number
X6800BM
Q-08-006
Certificate number
C-U-06-007
Carbon jar (380cc)
Atmosphere syphon
Fuel-pipe
Fuel switch assembly
Screw
Certificate number
C-U-05-012
Fuel tank vent pipe
Carbon jar fixed mount
Bolt
Negative pressure pipe
(connecting air filter)

Fuel System



Carbon Canister Location



Exhaust System

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